

## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.



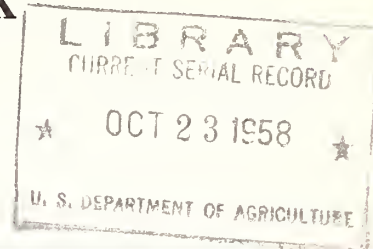
A 292.9  
50376  
cop. 2

# UPPER DESCHUTES RIVER and CROOKED RIVER WATERSHEDS

## WATER SUPPLY OUTLOOK

as of

APRIL 1, 1956



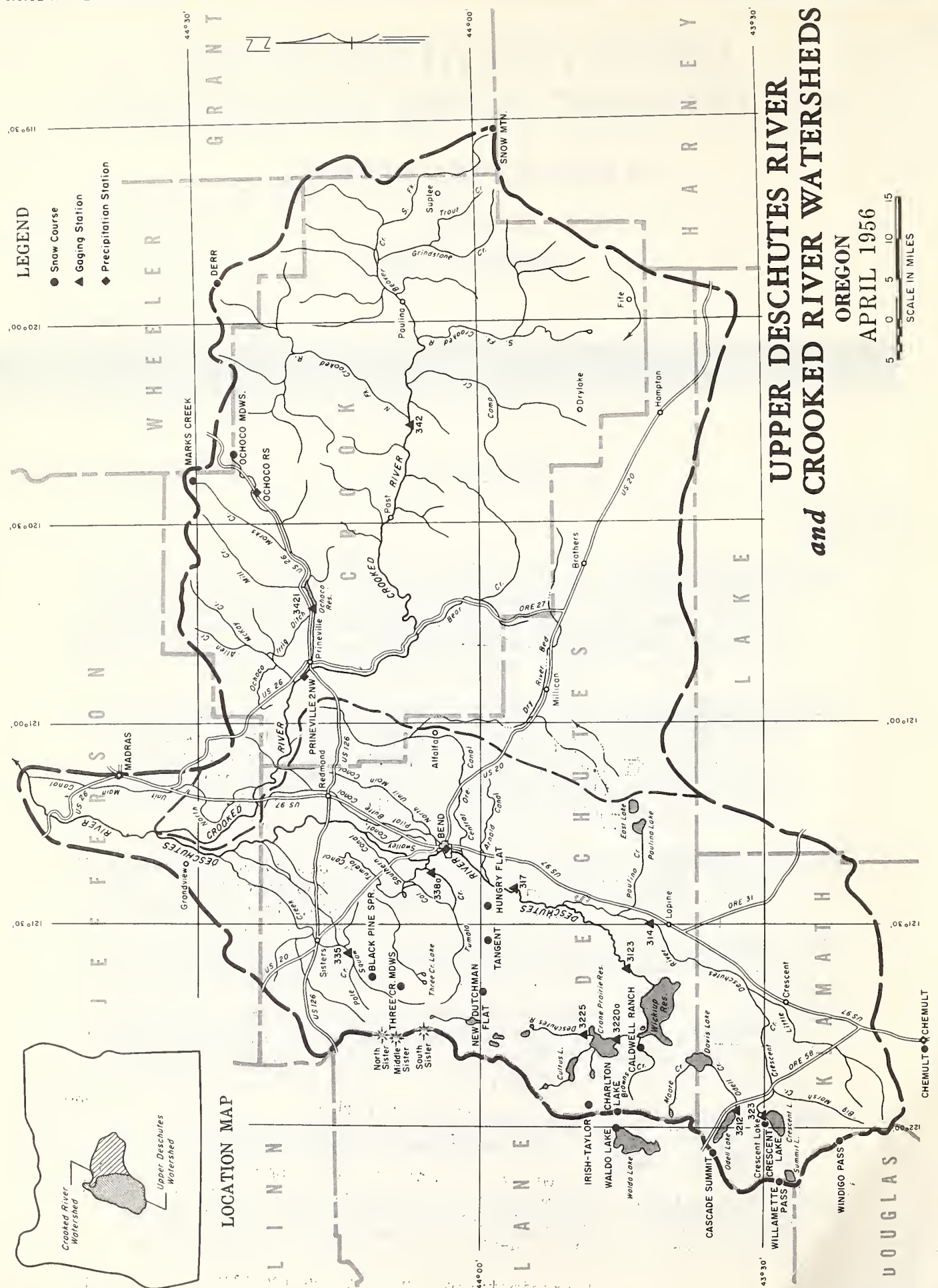
U. S. SOIL CONSERVATION SERVICE and OREGON AGRICULTURAL EXPERIMENT STATION

### S U M M A R Y

For details  
see page:

- 1 Water Supply Outlook: Irrigated lands served from the Upper Deschutes watershed will have ample water supplies, and those served from Crooked River will have adequate supplies for all usual irrigation if normal snow-melt and run-off conditions prevail. Ochoco Reservoir will provide ample water for lands served by it.
- 2 Streamflow Forecasts: Forecasts on the Upper Deschutes predict volume of spring and summer flow will be 136 to 165 percent average. Total flow of the main river at Benham Falls is expected to be second-highest since records began in 1924 and will be exceeded only by the heavy flow of 1952. Crooked River flow will not be so great but will be 109 percent of average.
- 2 Reservoir Storage: Storage on the Deschutes is excellent with adequate water already held back. Ochoco reservoir is also in good shape with an adequate supply ready for lands served by that source.
- 2 Soil Moisture: All soils in mountain watersheds are extremely wet and will cause snow-melt or rain-water to enter the stream rapidly.
- 3 Snow-Cover: Water content of the snow on the Deschutes is 153 percent average with some new records established. On the Crooked watershed the snow is 96 percent average but because of wet soils will produce a good run-off.
- 3 Precipitation: Fall precipitation over the entire area was 111 percent of average and total precipitation this year came up to 149 percent of average.

Current Streamflow: Total flow of the Deschutes River the past six months (October through March) has been about one-third above average.



WATER SUPPLY OUTLOOK  
For April-September, 1956<sup>a</sup>

Source of Water	Acreage Irrigated	Outlook
<u>Upper Deschutes River Basin</u>		
Crescent Lake	500	Ample water from this source is assured for Walker Basin Irrigation Company and the Tumalo Project.
Deschutes River	4,234	Swalley Ditch (Deschutes Reclamation and Irrigation Company) is assured an ample water supply.
Deschutes plus Crane Prairie Res.	46,500	Arnold and Central Oregon Irrigation Districts are assured an ample water supply for this season.
Deschutes plus Crescent Lake plus Tumalo Res.	6,830	Tumalo Project (Deschutes County Municipal Improvement District) is assured ample water from this source.
Deschutes plus Wickiup Res.	50,000	Ample water is assured for North Unit Irrigation District lands with Wickiup Reservoir full at this time.
Three Creeks Lake	550	Ample water supplies are available for the Snow Creek diversion.
Squaw Creek	9,800	Ample water for all lands served by this stream except for late rights which should have enough for all usual irrigation.
Squaw and Pole Creeks	1,350	Ample water for lands of the old Sisters Irrigation District.
<u>Crooked River Basin</u>		
Bear Creek	2,500	Adequate water supplies will be available for all usual irrigation. Late season flow to be better than average.
Crooked River	35,000	Adequate supplies for all usual irrigation. Summer rains are always needed here.
Ochoco and McKay Creeks	8,500	All lands above Ochoco reservoir will have adequate water for usual irrigation.

a - Assuming normal meteorological conditions during the April - September period.



STREAMFLOW FORECASTS<sup>a</sup>  
As of April 1, 1956

Gaging Station		Seasonal Streamflow in 1000 a.f. 1956 as			
No.	Name	Forecast 1956	Forecast Period	15 yr. Avg. 1938-52	% of 15- yr. Avg.
323	Crescent Cr. at Cres. Lk.*	35.0	Apr.-Sept.	21.2	165
314	L. Deschutes R., nr. Lapine*	130.0	Apr.-Sept.	89.6	145
314	L. Deschutes R., nr. Lapine*	120.0	Apr.-July	79.1	152
3212	Odell Cr. nr. Crescent	40.0	Apr.-Sept.	29.2	137
3225	Deschutes R., below Snow Cr.	95.0	Apr.-Sept.	60.4	157
3220a	Crane Prairie Res., net inflow	175.0	Apr.-Sept.	120.6	145
317	Deschutes R., at Benham Falls*	725.0	Apr.-Sept.	511.0	142
317	Deschutes R., at Benham Falls*	495.0	Apr.-July	345.3	143
338a	Tumalo Cr., nr. Bend*	67.0	Apr.-Sept.	48.3	139
335	Squaw Cr., nr. Sisters	67.0	Apr.-Sept.	49.3	136
3421	Ochoco R., net inflow	30.0	Apr.-Sept.	28.0	107
342	Crooked R., nr. Post	135.0	Apr.-Sept.	124.2 <sup>b</sup>	109
* Corrected to natural flow		b - 1938-39 excepted			

RESERVOIR STORAGE

Reservoir	Usable Capacity 1000 a.f.	Thousand a.f. in storage about April 1, 1956				1956 as % of 15 Yr. Avg.
		1956	1955	1954	15 Yr. Avg. 1938-52	
Ochoco	46.0	41.7	23.2	46.8	28.3	147
Crescent Lake	54.9	52.9	23.1 1/	38.7*	42.1	126
Crane Prairie	55.3	43.4	49.0	56.2	38.4	113
Wickiup	203.0	199.8	194.2	199.8	112.3 <sup>b</sup>	178
Total (4 Reservoirs)	343.5	337.8	289.5	341.5	221.1	153
* Spilling 1/ Construction activities. <sup>b</sup> 1938-42 excepted.						

SOIL MOISTURE

Soils in:	Fall Status	Current status as of April 1, 1956
Lower Valleys	(	(
Upper Valleys	(	(
Mountains	(	(
	(	(

At summer's end, last year, all mountain and valley soils were extremely dry. An unusual combination of heavy precipitation and early winter snow-melt has completely "recharged" all watersheds so that all soils are now extremely wet.

SNOW COVER  
As of April 1, 1956

Snow Course			1956		Water Content (in)			1956 as
No.	Name	Elev.	Snow Depth (in)	Water Content (in)	1955	1954	15.yr. Avg. 1938-52	% of 15- yr. Avg.
Upper Deschutes River Basin								
--- below 5000' ---								
21E11	Black Pine Spg.	4600	32	12.2	7.2	2.7	--	--
21F8	Caldwell Ranch	4400	46	17.1	7.9	10.6	8.4**	204
22F3	Cascade Summit	4880	118	49.5	32.1	37.8	32.2	154
21F11	Chemult	4760	44	17.0	4.9	11.6	9.6**	177
21F9	Crescent Lake	4760	56	22.8	13.2	13.3	10.0	228
21F4	Hungry Flat	4400	31	11.5	5.6	8.0	--	--
21F15	Paulina Prairie	4285	2	1.1	0.0	--	--	--
Average*			---	26.6	14.5	18.3	15.0	177
--- above 5000' ---								
21F7	Charlton Lake	5750	122	46.2	31.4	33.3	27.8**	166
21F14	Fire Road	5050	35	13.2	6.2	--	--	--
21F6	Irish-Taylor	5500	149	58.4	37.9	42.4	--	--
21F2	New Dutchman Flat	6400	156	72.4 <sup>b</sup>	43.7	60.2	53.1**	136
21F13	Paulina Lake	6330	72	28.6	14.1	--	--	--
21F3	Tangent	5400	91	34.3	16.6	26.0	--	--
21E13	Three Ck. Mdws.	5600	79	30.1	19.6	24.3	20.9	144
22F2	Waldo Lake	5500	131	50.1	30.9	33.4	29.3**	171
22F14	Willamette Pass	5600	136	63.2	38.4	53.1	--	--
22F15	Windigo Pass	5800	148	68.6	37.7	52.2	55.3**	124
Average*			---	53.5	32.7	40.7	37.2	144
Average*(9 Snow Courses)			---	41.5	24.6	30.7	27.4	151

Crooked River Basin								
19E3	Derr	5670	31	11.3	9.1	9.2	10.3	11.0
20E1	Marks Creek	4540	6	2.1	2.8	1.6	3.3	6.4
20E2	Ochoco Mdws.	5200	33	11.0	8.5	8.1	11.3	9.7
19F1	Snow Mountain	6300	37	13.8	11.6	12.3	15.1**	9.1
Average (4 Snow Courses)				9.6	8.0	7.8	10.0	9.6

\*\*Average for less than 15 years of record in 1938-52 period but not less than 5 years. <sup>b</sup>Partly estimated \* Only snow courses with a 15 year average used.

PRECIPITATION DATA  
1955-56

Station		Precipitation (inches)									Avg. as %	
Name	Elev.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Avg.	Normal*	of Normal	
Bend	3599	0.31	0.50	2.40	4.98	2.80	2.50	0.17	1.95	1.28	152	
Chemult	4760	1.06	1.54	4.46	9.91	8.18	3.77	1.33	4.32	3.01	144	
Madras	2300	0.68	0.56	1.80	3.49	2.67	1.63	0.36	1.60	0.88	182	
Ochoco RS	3979	1.25	2.06	2.62	5.00	3.45	1.49	0.63	2.36	1.70	139	
Prineville 2NW	2868	0.38	0.73	1.25	3.05	2.66	0.73	0.20	1.29	0.83	155	
Average		0.74	1.08	2.51	5.29	3.95	2.02	0.54	2.30	1.54	149	
Avg. Normal*		0.72	1.07	2.11	2.10	1.84	1.72	1.22				
Avg. as % of Normal		103	101	119	252	215	117	44				
Fall Avg. as % of Fall												
Normal (Sept-Oct-Nov)		111										
*Based on USWB data <sup>e</sup> estimated												

